

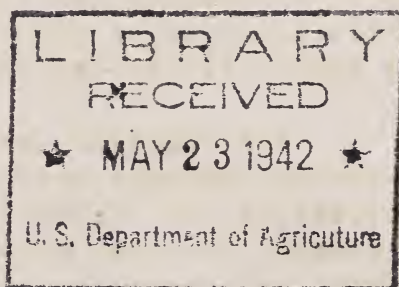
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R26
no. 81

U.S. Soil conservation service, Southwest
regions

VARIETY OF GRASSES FOR BETTER FORAGE AND LIVESTOCK PRODUCTION



BY
J. L. LANTOW
AND
T. L. HEGGIE
RANGE CONSERVATION DIVISION

REGIONAL BULLETIN NO. 81
RANGE MANAGEMENT SERIES NO. 4
APRIL, 1942

VARIETY OF GRASSES FOR BETTER FORAGE AND LIVESTOCK PRODUCTION

YEARLONG AND UNRESTRICTED SEASONAL GRAZING IS CONDUCTIVE TO EARLY, REPEATED, AND HEAVY USE OF THE MOST PALATABLE RANGE PLANT SPECIES. THIS OFTEN CONTRIBUTES TO REDUCING THE NUMBER OF GRASS SPECIES AND HOLDS TRUE EVEN IF THE AREA AS A WHOLE IS GRAZED WITHIN ITS TOTAL FORAGE PRODUCTION.

THE CHOOSING OF FORAGE PLANT SPECIES BY LIVESTOCK DEPENDS BOTH ON PALATABILITY AND AVAILABILITY AT ANY GIVEN TIME. MANAGEMENT CAN TAKE ADVANTAGE OF THESE FACTORS. GREEN, IMMATURE RANGE FORAGE OF A GIVEN SPECIES ORDINARILY IS MORE PALATABLE THAN WHEN MATURE AND DRY. A YOUNG PLANT CONTAINS MORE WATER THAN AN OLDER PLANT, BUT THIS IS COMPENSATED FOR BY HAVING MUCH LESS FIBER THAN THE OLDER PLANT. THEREFORE, A YOUNG GREEN PLANT ON A DRY MATTER BASIS IS A MORE CONCENTRATED FEED THAN WHEN MATURE.

RANGE FORAGE, WHEN YOUNG AND GREEN, IS HIGHER IN VITAMIN, PROTEIN, AND MINERAL CONTENT THAN WHEN MATURE. THESE COMPOUNDS, PLUS THE TENDER AND SUCCULENT CONDITION OF GROWING PLANTS, MAKE THE FORAGE TASTY AND DESIRABLE. BECAUSE OF THE HIGH WATER CONTENT OF VERY YOUNG GROWING GRASSES, THERE SHOULD BE A PLENTIFUL SUPPLY PRESENT SO THAT A GRAZING ANIMAL CAN EASILY GET SUFFICIENT NUTRIENTS AND NOT SPEND ITS TIME TRYING TO GRUB OUT A LIVING FROM SHORT GROWTH.

VARIETY DESIRABLE

IT IS DESIRABLE TO HAVE A VARIETY OF PALATABLE GRASS SPECIES IN A RANGE COVER. SUCH VARIETY GIVES A GREATER EFFICIENCY IN BOTH FORAGE AND LIVESTOCK PRODUCTION, WHICH, IN TURN, INCREASES THE RANCHER'S INCOME. HIGH WATER EVAPORATION IN MOST OF THE RANGE AREAS DEMANDS ADEQUATE GROUND COVER IF RAINFALL IS TO BE RETAINED OR USED BEFORE IT EVAPORATES. THE RESPECTIVE GROWTH PERIODS OF A VARIETY OF GRASSES ARE SOMEWHAT STAGGERED DURING THE SEASON; CONSEQUENTLY, THEIR SEVERAL DEMANDS FOR WATER LESSEN THE ENCROACHMENT OF WEEDS OR SHRUBS. SEVERAL SPECIES WITH DIFFERENT TIME PERIODS OF GROWTH MAY CONTRIBUTE TO A GREATER TOTAL FORAGE PRODUCTION THAN JUST ONE SPECIES. DIFFERENT GRASSES HAVE PEAK DEMANDS FOR WATER AT DIFFERENT TIMES AND MAY ALSO VARY IN THE USE DEPTH OF THE SOIL. EACH KIND OF PLANT HAS A SLIGHTLY DIFFERENT REQUIREMENT EITHER IN TEMPERATURE, MOISTURE, OR SOIL, SO FROM SPRING TO FALL AND OVER A VARIETY OF SOIL AND OTHER CONDITIONS, TWO OR MORE FORAGE SPECIES USUALLY ARE BETTER THAN ONLY ONE.

SEVERAL GRASS SPECIES IN A PASTURE OFFER THE GRAZING ANIMAL ITS CHOICE, BUT IN THAT CHOICE LIES ONE OF THE DANGERS OF YEARLONG AND UNRESTRICTED GRAZING. ALL SPECIES OF FORAGE PLANTS ARE NOT DESIRED ALIKE BY LIVESTOCK, NOR ARE ALL SPECIES EQUALLY PALATABLE AT THE SAME STAGE OF GROWTH OR MATURITY. MINERAL CONTENT PLAYS A PART IN TASTE. SOME PLANTS MAY DRAW UP GREATER AMOUNTS OF SOME ELEMENTS OR MINERALS FROM SOME SOILS THAN OTHERS; IN DIFFERENT LOCATIONS, THE SAME PLANT MAY VARY IN PALATABILITY. THEREFORE, PALATABILITY, WHETHER DUE TO DIFFERENT STAGES OF GROWTH OR TO VARIED NUTRIENT CONTENT, MUST BE RECKONED WITH IF DESIRABLE FORAGE PLANTS ARE TO BE RETAINED OR RESTORED.

A PLAN OF USE

LIVESTOCK MUST EAT SOMETHING AT ALL TIMES OF THE YEAR. NOT ONLY SHOULD LIVESTOCK MAKE USE OF THE MOST PALATABLE PLANTS, BUT THEY CAN ALSO BE INDUCED TO UTILIZE THE LESS DESIRABLE SPECIES WHEN THESE PLANTS ARE MOST PALATABLE. WHAT, THEN, IS THE PLAN OF USE WHICH WILL PROVIDE BEST FOR THE LIVESTOCK AND YET CONSERVE OR INCREASE THE MORE PALATABLE SPECIES WITHIN THE ENVIRONMENTAL POSSIBILITIES? THE ANSWER IS SOME COMBINATION OF A DEFERRED (OR PARTIAL-DEFERRED) AND ROTATIONAL PLAN IN RANGE USE.

DEFERRED USE IS ALLOWING THE VEGETATION TO MATURE SEED BEFORE PERMITTING IT TO BE GRAZED. PARTIAL-DEFERRED USE IMPLIES WITHHOLDING USE UNTIL GOOD GROWTH IS MADE BUT BEFORE THE SEED IS MADE. THE ROTATIONAL PLAN INVOLVES THE USE OF A GIVEN PASTURE AT DIFFERENT TIMES OF THE YEAR OR IN DIFFERENT YEARS IN A ROTATING PLAN. IT MUST BE UNDERSTOOD THAT THE CLIMATE FOR ANY ONE YEAR MAY DICTATE THE USE OF A PASTURE, CAUSING CHANGES OR TEMPORARY ABANDONMENT OF A ROTATION OR DEFERRED PLAN.

A COMBINATION OF THESE SYSTEMS OF USE PERMITS LIVESTOCK TO GRAZE THE MOST PALATABLE SPECIES IN ONE PASTURE OR ON ONE PART OF A RANGE WHILE THESE SAME SPECIES ARE DEVELOPING UNHAMPERED AND MAINTAINING THEIR VIGOR IN SOME OTHER PASTURES ON THE RANCH. SURELY, MORE ATTENTION SHOULD BE GIVEN TO RETAINING OR BRINGING BACK HIGHLY PALATABLE FORAGE SPECIES. ALL TOO OFTEN THE PRESENCE OF ONLY ONE KIND OF GRASS MEANS A PAST, AND POSSIBLY A PRESENT, LACK OF GOOD MANAGEMENT. IN TOO MANY INSTANCES, ONE FORAGE PLANT MAKES UP 95 PERCENT

OF AN AREA'S PALATABLE FORAGE. IT IS QUITE PROB-
ABLE THAT AT ONE TIME IN THE PAST PALATABLE FORAGE
PLANTS WERE PRESENT IN PERCENTAGES WHICH PROVIDED
A BETTER GROWING AND FATTENING FEED FOR A LONGER
PERIOD OF TIME. A GREATER VARIETY OF FORAGE
PLANTS WAS ONCE MAINTAINED ON OUR RANGES ALTHOUGH
EVEN THEN THEY WERE GRAZED BY GAME ANIMALS. TO
MAKE AN IMPROVEMENT, WE MUST THINK BEYOND NUMBERS
OF LIVESTOCK, IMPORTANT AS LIVESTOCK NUMBERS MAY
BE.

DEFERRED-ROTATIONAL GRAZING, IF PROPERLY
APPLIED, WILL ASSIST IN RESTORING THE RANGE TO
SOME DEGREE OF ITS PRISTINE CONDITION, HELP
ACHIEVE MAXIMUM FORAGE YIELDS, AND IMPROVE LIVE-
STOCK GAINS. IT IS ONLY NATURAL THAT THE MORE
PALATABLE SPECIES, UNDER YEARLONG GRAZING, WILL
BE CLIPPED MORE OFTEN THAN THE LESS PALATABLE
SPECIES. IF THIS CLIPPING IS TOO CLOSE OR TOO
FREQUENT, IT WILL REDUCE THE VIGOR OF THE PLANT
AND LESSEN THE AMOUNT OF FORAGE PRODUCED. UNDER
A YEARLONG GRAZING SYSTEM, THIS IS EXACTLY WHAT
HAPPENS UNLESS THE RANGE IS VERY LIGHTLY STOCKED.
IF STOCKING IS TOO LOW, HOWEVER, LARGE AMOUNTS
OF THE LESS PALATABLE SPECIES ARE LEFT UNGRAZED,
AND LEGITIMATE RETURNS ARE NOT REALIZED FROM THE
PASTURE.

A DEFERRED-ROTATIONAL SYSTEM OF GRAZING
OFTEN CAN BE DEvised SO THAT LIVESTOCK CAN TAKE
ADVANTAGE OF THE MOST PALATABLE STAGE IN THE
GROWTH OF THE LESS PALATABLE SPECIES. MANY OF
THE LESS PALATABLE SPECIES "GREEN UP" BEFORE THE
PALATABLE ONES. AS AN EXAMPLE, WE FIND THE
THREE-AWN GRASS (ARISTIDE PURPUREA) GREENING UP
BEFORE GRAMA IN OUR GRAMA, THREE-AWN TYPES.

IMPORTANCE OF FEED RESERVES

IN MOST RANCH SET-UPS IN THE SOUTHWEST, LIVESTOCK HAVE TO EAT MATURE GRASS OR OTHER MATURE FORAGE FROM 6 TO 9 MONTHS OF THE YEAR. IMPORTANCE OF THIS DRY, MATURED GRASS SHOULD NOT BE MINIMIZED. LIVESTOCKMEN SHOULD BE AS INTERESTED IN DRY FEED AND ITS COMPOSITION AS IN GREEN FORAGE, AND THEY SHOULD SEE THAT ADEQUATE QUANTITIES OF DRY RANGE FEED ARE RESERVED FOR USE AFTER THE GROWING SEASON. IF ALL THE GREEN FORAGE IS USED IN THE SUMMER MONTHS, THE LIVESTOCK MUST LIVE MOSTLY ON SCENERY DURING THE FALL, WINTER, AND EARLY SPRING. IT IS ADMITTED THERE IS LEACHING OF NUTRIENTS AFTER MATURITY AND THAT DRY FEED IS NOT AS PALATABLE AS THE GREEN GRASS. NEVERTHELESS, LIVESTOCK MAINTENANCE OR GROWTH AND EVEN SURVIVAL IS DEPENDENT UPON DRY FEED, AND A PLENTIFUL SUPPLY SHOULD BE PROVIDED. SUPPLEMENTAL CONCENTRATES ARE TOO OFTEN USED TO TAKE THE PLACE OF DRY FEED WHICH COULD HAVE BEEN PROVIDED UNDER AN IMPROVED PLAN OF USE. SUPPLEMENTAL CONCENTRATES SHOULD BE USED CHIEFLY TO CORRECT DEFICIENCIES IN THE NUTRITIVE CONTENT OF AN ADEQUATE SUPPLY OF FORAGE AND SHOULD NOT TAKE THE PLACE OF DRY FORAGE, UNLESS THE RANGE IS COVERED WITH SNOW.

MORE UNIFORM USE

THE DEFERRED-ROTATIONAL SYSTEM OF GRAZING, WHICH ALLOWS LARGER NUMBERS OF LIVESTOCK FOR A SHORTER PERIOD OF TIME ON A GIVEN PASTURE THAN DOES THE YEARLONG GRAZING PLAN, WILL INDUCE MORE UNIFORM USE OF ALL FORAGE SPECIES. UTILIZATION CAN BE STOPPED AT MORE NEARLY THE CORRECT POINT FOR TOTAL USAGE, AS WELL AS FOR CERTAIN PLANTS. UNDER SUCH A PLAN, PALATABLE SPECIES ARE LESS

FREQUENTLY CLIPPED AND THE LESS PALATABLE SPECIES ARE USED MORE OFTEN. THE DIFFERENCE IN PALATABILITY BETWEEN SPECIES MAY BE VERY MARKED AND HIGH PALATABILITY IN A PLANT MAY BE ITS DOWNFALL. ITS RE-GROWTH IN THE GROWING SEASON MAY BE GRAZED TOO FREQUENTLY AND TOO CLOSELY WHILE OTHER LESS PALATABLE SPECIES ARE LITTLE USED. THIS TOO EARLY AND FREQUENT GRAZING MAY CONTINUE YEAR AFTER YEAR UNTIL THE PLANT HAS DISAPPEARED. LIVESTOCK, UNDER YEARLONG USE, EAT THE MOST PALATABLE FORAGE AT HAND REGARDLESS OF ITS STAGE OF DEVELOPMENT OR ITS PERCENTAGE IN THE COMPOSITION. A PLANT MUST REACH AT LEAST PARTIAL MATURITY ONCE IN A WHILE IF IT IS TO BUILD UP VIGOR AND GIVE ITS FULL CONTRIBUTION TO THE STAND AND TO PRODUCTION. THE BUNCH TYPE GRASSES GENERALLY FEEL ABUSE QUICKER AND PASS OUT OF THE PICTURE EARLIER THAN DO THE SOD TYPES.

SUMMING UP

ALL THESE -- THE DESIRABILITY OF ACQUIRING OR MAINTAINING A VARIETY OF SPECIES IN RANGE COVER TO MAKE BETTER USE OF SCANT RAINFALL AND FOR MAXIMUM FORAGE PRODUCTION, THE VARYING PALATABILITY OF DIFFERENT SPECIES, THE NEED FOR AMPLE DRY FEED RESERVES, AND THE NEED FOR MORE UNIFORM USE OF ALL HIGHLY PALATABLE AND LESS PALATABLE SPECIES -- ARE FACTORS WHICH ADD UP INTO A STRONG CASE FOR ADOPTION OF DEFERRED-ROTATION GRAZING PLANS ON WESTERN RANGE LANDS. ESPECIALLY IN TIMES OF HEAVY DEMANDS ON THE LIVESTOCK INDUSTRY, THE USE OF SOME COMBINATION OF DEFERRED AND ROTATIONAL GRAZING WILL NOT ONLY MAKE FOR MORE EFFICIENT PRODUCTION BUT WILL ALSO HELP SAFEGUARD RANGE RESOURCES OF GRASS, SOIL, AND WATER WHICH MUST BE CONSERVED IF THE LIVESTOCK INDUSTRY ITSELF IS TO SURVIVE.

FLEXIBILITY OF LIVESTOCK AND RANGE MANAGEMENT TO ACHIEVE ANY DESIRED RESULT IS RECOGNIZED NOW AS BEING MORE PROFITABLE AND PRACTICAL THAN TRYING TO DICTATE TO NATURE BY FOLLOWING TOO RIGIDLY A PRECONCEIVED PLAN.

ISSUED BY
UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
REGION 8
ALBUQUERQUE, NEW MEXICO